


IN THE CLAIMS:


 J. Edgar Hoover
 Director

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212. An inductive sensor according to claim 11, further comprising a reference loop, said reference loop having a loop return line disposed in said flux path area so that said reference loop return line is continuously permeated by all of said flux inducing a reference loop output voltage for use as a reference for a total voltage induced with said inductive transmission element.

13. An inductive sensor according to claim 11, further comprising another conductor loop arranged on said fixed housing, said other conductor loop including a second feed line and a second return line, said second return line having a path which at regular intervals of said measurement length which are offset from the intervals of said one conductor loop alternates into and out of said flux path area, said other loop inducing a loop output voltage additive to the output voltage of said one conductor loop for indicating a measurement length position of said body on said fixed housing.

14. An inductive sensor according to claim 11, further comprising another conductor loop arranged on said fixed housing, said other conductor loop including a second feed line and a second return line, said second return line being arranged at a fixed housing side opposite a housing side at which said one conductor loop return line is arranged, said second return line at regular intervals of said measurement length which are offset from the intervals of said one conductor loop alternating into and out of said flux path area, said other

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loop inducing another loop output voltage, a difference between said other loop output voltage and the voltage induced in said one conductor loop indicating a measurement length position of said body on the housing.

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15. An inductive sensor according to claim 11, wherein plural independent measuring loops are provided for obtaining body position indicative measurement values.

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16. An inductive sensor according to claim 11, wherein said return line path alternates into and out of said flux path area at locations spaced one from another at a uniform pitch along said measurement length, said inductive transmission element having a measuring core of high permeability material, said core having an air gap, a width of the air gap in a direction of said measurement length corresponding to said pitch.

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17. An inductive sensor according to claim 6, wherein an effective length of said air gap is a whole-number multiple of said pitch.

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18. An inductive sensor according to claim 6, wherein an effective length of said air gap is twice said pitch.

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19. An inductive sensor according to claim 11, wherein said return line path alternates into and out of said flux path area at locations spaced one from another at a uniform

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pitch along said measurement length, said inductive transmission element having a measuring core of high permeability material, said core having an air gap, an average of an induction over a width of said conductor along a line perpendicular to a measurement length direction during a movement of the measuring core rising and falling in an approximately linear form over a distance equal to said pitch.

*10
20* An inductive sensor according to claim *11*, wherein said measurement length is circular, said conductor loop being arranged on said housing in a circular course, said transmission element being mounted for rotation about said conductor loop for measuring an angular position of the body on said measurement length.

21 An inductive sensor according to claim 20, further comprising another conductor loop arranged on said fixed housing in a circular course, said one and said other conductor loops each extending over an angle of 360 degrees, said other conductor loop including a second feed line and a second return line, said second return line having a path which at regular intervals of said measurement length alternates into and out of said flux path area, said other loop inducing another loop voltage, a ratio of said one conductor loop voltage over said other loop conductor voltage being indicative of a body angular position on said fixed housing.

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12.

An inductive sensor according to claim ~~11~~, wherein said output voltages

of said one conductor loop and said output voltage of said other conductor loop approximate out-of-phase sine functions.

IN THE ABSTRACT:

After amended page 12, add the next following abstract of the disclosure page:

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